December 1991

Railway Age

Incorporating Railroad

OUTLOOK
1992 as the CEOs see it

R&D: Trucks and running gear

Improved bearings, improved detection systems

More rail transit for New Orleans?

1992 Railroad Financial Desk Book

December 1991

Railway Age

1992 Railroad Financial Desk Book

By Anthony D. Kruglinski

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Cover: Eastbound NYS&W double stack train east of Newfoundland, N.J.
Photo by Bruce Kelly

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Market Outlook

Equipment

Los Angeles County Transportation Commission: Awarded a $4.6 million contract to Safetran Systems Corp. for design, supply, and testing of signaling and control systems equipment for a new 15-mile commuter railroad line between San Bernardino County and downtown Los Angeles. The new line, rebuilt to modern main line standards, will replace 15 miles of track originally laid in 1912 as the Pacific Electric Railway's interurban link between Los Angeles and San Bernardino.

Santa Fe: Ordered 67 six-axle and 23 four-axle 4,000-hp Dash 8 diesel-electric units from General Electric for delivery in second- and third-quarter 1992 (see p. 16).

TTX: Awarded a contract worth nearly $65 million to Gunderson for 1,625 Maxi-Stack III intermodal platforms. Delivery of the order begins next month and is to be completed by late summer 1992. Gunderson President L. Clark Wood said this is the biggest new-car order ever received by Gunderson and "assures that our 1,000-plus employees will be very busy throughout much of 1992."

Union Pacific: A "significantly increased" capital budget for 1992 calls for acquisition of 60 new diesel-electric locomotives, overhaul of 325 SD40-2 units, and an "aggressive" freight car rebuild program.

Facilities

Amtrak: Awarded a $3 million contract for eight 80-mph trackwork crossovers to a consortium formed by Bethlehem Steel's Rail Products and Pipe Division of Steelton, Pa., and Balfour Beatty's Railway Engineering Division, Nottingham, England. The 800-foot-long crossovers, the longest high speed special trackwork installations in the U.S., will be located along Amtrak's lines between New Haven, Conn., and Boston, Mass. Balfour Beatty will manufacture the European-style asymmetric switch points and moveable point frog sections; Bethlehem will furnish the rail and other components and assemble the sections on concrete ties.

BiState Development Agency: Under subcontract to prime contractor Morrison Knudsen, Harmon Industries will provide a $4.7 million signaling and train control system for the St. Louis Metro Link light rail transit project. This is Harmon's first major transit contract.

Revenue freight carloadings

Commodity	Nov. 9 week	Nov. 2 week	Oct. 26 week	Oct. 19 week
Grain	27,387	24,913	31,252	32,507
Other farm products	1,930	2,107	2,190	2,045
Metallic ores	14,251	13,086	14,823	13,561
Coal	128,936	128,131	134,663	131,204
Crushed stone, gravel and sand	12,758	13,229	15,272	15,630
Nonmetallic minerals	7,491	8,842	8,971	9,339
Grain mill products	9,742	9,844	10,102	9,967
Food and kindred products	9,073	9,016	9,380	9,137
Primary forest products	9,132	9,122	9,333	9,295
Lumber and wood products	5,034	5,839	5,518	5,359
Pulp, paper and allied products	9,594	9,867	10,195	9,537
Chemicals and allied products	28,018	28,014	28,941	27,658
Petroleum products	5,453	5,116	5,008	5,000
Stone, clay and glass products	8,634	8,911	9,590	9,653
Coke	5,533	5,843	5,381	5,363
Metals and products	9,900	10,359	9,803	9,695
Motor vehicles and equipment	17,866	18,949	19,767	18,952
Waste and scrap materials	8,399	8,710	9,110	8,850
All other carloads	6,635	7,497	7,580	6,747
Total Cars Loaded	325,766	327,395	346,879	339,499
% change from previous year	(3.4)	(6.4)	(1.4)	(2.1)

		% change
Cumulative total: 45 weeks	14,481,636	(5.1)

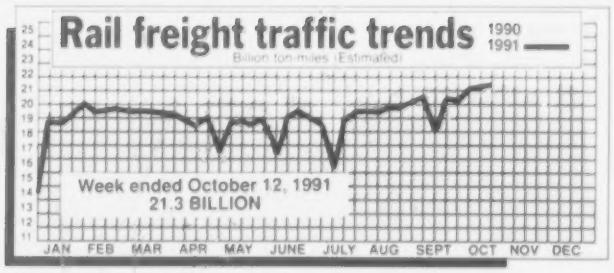
Estimated revenue ton-miles (billions)	20.4	20.5	21.8	21.4
% change from previous year	(1.4)	(4.2)	9	1.4

Total:	1991	1990	% change
45 weeks	885.0	901.7	(1.9)

Intermodal traffic

	Nov. 9	Nov. 2	Oct. 26	Oct. 19
Trailers	67,346	71,156	69,220	66,265
Containers	64,512	66,698	67,399	62,015
Total	131,858	137,854	136,619	128,280
% change from previous year	3.0	3.8	4.9	(1.5)

		% change
Cumulative total: 44 weeks	5,393,885	1


Rail freight traffic trends
1990
1991
Billion ton-miles (Estimated)
Week ended October 12, 1991
21.3 BILLION
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

Source: Association of American Railroads

Freight cars

	DELIVERED 3rd quarter 1991	DELIVERED 3rd quarter 1990	ORDERED 3rd quarter 1991	ORDERED 3rd quarter 1990	ON ORDER AND UNDELIVERED July 1 1991	ON ORDER AND UNDELIVERED July 1 1990
Built new by carbuilders	6,331	7,659	5,300	3,996	8,775	12,214
Built new in RR shops	0	0	0	0	0	0
Built new—Total	6,331	7,659	5,300	3,996	8,775	12,214
Rebuilt	1,780	1,706	573	1,706	1,148	0
TOTAL	8,111	9,365	5,873	5,702	9,923	12,214
Locomotives (new and rebuilt)	N/A					

Source: Transportation Div., AAR and American Railway Car Institute

The costs of railroad capital

By DR. HARVEY A. LEVINE

Vice President, Economics & Finance Department, Association of American Railroads

The Railroad Revitalization and Regulatory Reform Act of 1976 mandated that the Interstate Commerce Commission (ICC) make an annual determination of the revenue adequacy of the nation's freight railroads. The revenue-adequacy criterion adopted by the Commission is that a railroad's overall rate of return on investment (ROI) should at least equal its cost of capital (COC). Consequently, since 1978 the Commission has calculated an annual railroad cost of capital—calculations which have created a potentially significant problem for the railroad industry.

The definition

The COC is the minimum ROI which providers of capital require to undertake an investment—in essence, the capital-investment threshold ROI. It is an opportunity cost because it measures what investors sacrifice by not investing elsewhere. Investment funds generally flow to projects and companies where the expected returns are thought to at least equal the expected returns available in other investment opportunities, commensurate with the risk of investment. For-profit enterprises must have the expectation of earning adequate returns, or they will not attract the capital needed to sustain their operations.

The determination

In arithmetic terms, the COC is the average current cost of attracting both debt and equity capital, weighted by the current market values of each type of capital. For example, in 1990 a capital structure of 34.7% debt and 65.3% equity, a current cost of debt of 9.8%, and a cost of equity of 12.9%, resulted in a COC of 11.8% (.347 × 9.8% debt + .653 × 12.9% equity).

In calculating the COC, the ICC uses an investment grading process to measure the current yields of such outstanding debt as: Equipment Trust Certificates, Conditional Sales Agreements, bonds, notes, and debentures. The Commission has adopted a Discounted Cash Flow (DCF) methodology to calculate the cost of equity capital, summarized as the sum of the expected dividend yield and the expected five-year growth rate—the latter taken from a consensus of security analysts' estimates. For instance, an expected dividend yield rate of 3.7% and an expected growth rate of 9.2%, would result in a cost of equity capital of 12.9%. The DCF approach is commonly used by public utility regulators, is easy to understand, and employs publicly-available data. The rationale of DCF is that it measures investor expectations.

The record

Although the ICC has been calculating the COC since 1978, the data presented below begins in 1982 because for the 1978-1981 period, the Commission adopted an "acceptable" debt-equity ratio of 40%-60%. Beginning in 1982, the ICC began to calculate the actual market value of railroad debt and equity.

	Cost of Capital			Capital Structure	
Year	Debt	Equity	Total	Debt	Equity
1982	14.0%	19.8%	17.7%	37.0%	63.0%
1983	11.7	16.8	15.3	29.4	70.6
1984	12.8	17.3	15.8	33.9	66.1
1985	11.1	14.6	13.6	28.8	71.2
1986	8.9	13.3	11.7	34.8	65.2
1987	9.3	12.6	11.6	30.6	69.4
1988	9.7	12.6	11.7	31.0	69.0
1989	9.7	12.4	11.5	31.8	68.2
1990	9.8	12.9	11.8	34.7	65.3

As shown above, the COC has declined to a relatively stable level during the past five years, but its stability has an internal unstable element. From 1986 to 1990 the cost of debt has increased while the cost of equity has generally declined. This inverse trend is both disturbing and suspect.

The problem

The suspect decline in the cost of equity capital is supported by significant evidence that the entire COC has been understated in recent years. For example:

1. A number of companies in the financial community have calculated railroad costs of equity capital above the regulatory level.

2. The regulatory-determined cost of equity has been below that of the market in general, including public utilities, but there is no reason to believe that railroads are less risky than all industries as a whole, or public utilities in particular. In fact, the measure of railroad risk is consistently higher than that of the S&P 500 and public utilities.

3. The ICC cost of railroad equity of 12.9% in 1990, less the cost of risk-free debt (i.e., government securities) of 7.6%, equates to a market risk premium of 5.3%. This is significantly below the 7.3% and 7.2% market risk premium for 1990, calculated by two leading (investment banking) Wall Street companies.

4. The average 3.0% spread between the railroad cost of debt and equity in recent years is below that of both public utilities and other industries.

The understatement of the railroad COC may not have an immediate impact in the revenue-adequacy application because most railroads are still not revenue adequate, and even for those one or two that may be in a given year, a one-year determination does not necessarily result in adverse ICC decisions. However, there are other applications of the COC where an understatement could have a serious negative impact on railroads. First, an understated COC produces lower railroad costs as calculated by regulatory costing procedures; in turn, this results in higher revenue-cost ratios, thereby increasing ICC jurisdiction over rates. Second, an understated COC increases the limits on the railroads' ability to increase regulated rates, because the lower costs result in higher revenue contributions. And, third, an understated COC can adversely affect railroads in other regulatory proceedings such as abandonments, where opportunity cost is an issue. Somewhat ironically, the results of a regulatory understated COC can increase the riskiness of investing in railroads and thus, increase the market-determined, or "actual" cost of capital of the railroad industry.

The need

There appears to be a need for a broader regulatory approach in both understanding and calculating the railroad COC. A seemingly worthwhile research task would be to determine why the DCF model appears to understate the cost of equity capital to railroads. Is it possible that the expected relationship between growth rates and stock yields is upset by some particular aspect of a railroad industry which is competitive, and yet partially regulated? Does the composition and/or size of the railroad sample have an impact on the COC? Are there non-railroad operating factors in the price of railroad holding company stocks? These, and other questions, lend themselves to scrutiny. However, assuming that a regulatory quick fix will not occur, as regulatory proceedings are usually drawn-out affairs, the more immediate need is perspective—perspective from the ICC, financial analysts, and potential investors. All three groups must understand that although the Commission's annual calculation has an "official" ring to it, it has its limitations.

It must be understood that the COC calculation for revenue-adequacy determinations could have more serious consequences when used elsewhere; this should lead the Commission to examine not only its procedures for determining COC, but also its application of the COC in proceedings other than the revenue-adequacy determination. One idea to ponder is that the ICC adopt a "sanity test" for the COC calculation whereby unless there is strong evidence to the contrary, the railroad COC should not be below that of the market in general (e.g., the S&P 500). Similarly, the COC of a comparable group of companies, or industries, could be used as a surrogate for the railroad-specific COC.

The point is, in recent years the DCF model has produced results for the railroad industry which are, at best, highly suspect. Whether this is a short-term quirk or a more long-term condition due to some anomaly of the railroad industry remains to be seen. In the meantime, the issue should be explored and open minds should prevail.

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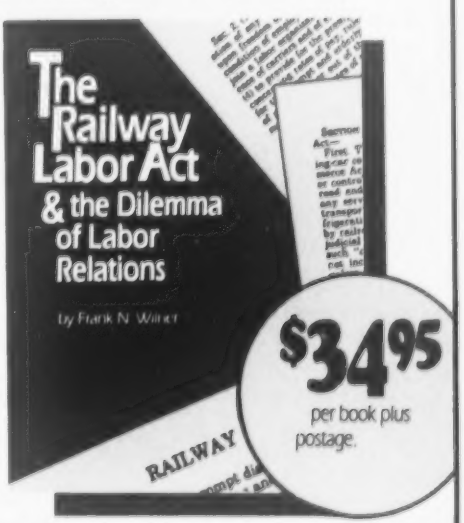

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